What Is Claimed Is:

1. A method of forming a prosthetic limb for attachment to a residual limb of a living animal, the method comprising:

generating a digital representation of a three-dimensional surface contour that is dependent on a physical three-dimensional surface contour of at least a portion of the residual limb;

generating a digital representation of a socket of the prosthetic limb, the socket having cavity defined by an interior surface, the interior surface being defined at least partially by the digital representation of the three-dimensional contour; and

forming the socket out of physical material using a digitally controlled layered manufacturing technique driven by the digital representation of the socket.

2. A method in accordance with claim 1 wherein the step of generating the digital representation of the socket occurs in a manner such that the socket has an exterior surface and such that the cavity of the socket terminates at a non-planar perimeter surface that bridges the exterior and interior surfaces, and wherein the step of forming the socket out of physical material occurs in a manner such that the digitally controlled layered manufacturing technique automatically forms the perimeter surface, thereby eliminating the need to form

the perimeter surface by trimming the physical material.

3. A method of forming a prosthetic limb and attaching the prosthetic limb to a residual limb of a living animal comprising:

forming the prosthetic limb in accordance with claim 2, the step of forming the socket out of physical material occurring in a manner such that the digitally controlled layered manufacturing technique automatically forms an access opening in the socket that extends into the cavity from the exterior surface;

attaching the prosthetic limb to the residual limb by positioning the residual limb with the liner positioned thereon at least partially into the cavity of the socket; and

accessing a portion of the residual limb within the cavity of the socket through the access opening after the prosthetic limb has been attached to the residual limb.

4. A method in accordance with claim 1 wherein the step of generating the digital representation of the three-dimensional surface contour comprises electronically scanning the portion of the residual limb.

5. A method in accordance with claim 4 wherein the step of generating the digital representation of the three-dimensional surface contour comprises positioning at least one

artifact adjacent the residual limb and wherein the scanning occurs in a manner creating a plurality of digital representations of surface contours dependent on the physical three-dimensional surface contour of the portion of the residual limb and on the artifact, the step further comprising aligning the plurality of digital representations of surface contours relative to each other by aligning portions of the plurality of digital representations of surface contours that are dependent on the artifact, the digital representation of the three-dimensional surface contour being dependent on the aligned plurality of digital representations of surface contours.

6. A method of forming a prosthetic limb and attaching the prosthetic limb to a residual limb of a living animal comprising:

forming the prosthetic limb in accordance with claim 4, the step of generating the digital representation of the three-dimensional surface contour comprising electronically scanning the portion of the residual limb with a liner positioned on the residual limb in a manner such that the interior surface is also defined at least partially by the liner; and

attaching the prosthetic limb to the residual limb by positioning the residual limb with the liner positioned

thereon at least partially into the cavity of the socket.

7. A method in accordance with claim 1 wherein the step of forming the socket out of physical material using a digitally controlled layered manufacturing technique comprises using the digitally controlled layered manufacturing technique to form a fitting as an integral and homogeneous part of the socket and wherein the method further comprises:

providing a prosthetic appendage portion of the prosthetic limb that is releasably attachable directly to the fitting of the socket; and

attaching the prosthetic appendage portion directly to the fitting of the socket.

8. A method in accordance with claim 1 wherein the step of generating the digital representation of the socket of the prosthetic limb further comprises generating the digital representation of the socket in a manner such that the socket has an exterior surface that is spaced from the interior surface and that defines a socket wall that has a thickness that extends between the exterior and interior surfaces, the thickness of the socket wall varying in dimension at different portions of the socket wall, and wherein the step of forming the socket out of physical material using the digitally controlled layered manufacturing technique comprises forming

the socket wall out of the physical material using the digitally controlled layered manufacturing technique.

9. A method in accordance with claim 1 wherein the step of generating the digital representation of the socket of the prosthetic limb further comprises generating the digital representation of the socket in a manner such that the socket has an exterior surface that is spaced from the interior surface and that defines a socket wall that has a thickness that extends between the exterior and interior surfaces and in a manner such that a passageway having a non-linear trajectory is formed between the interior and exterior surfaces and extends transversely to the thickness of the socket wall, and wherein the step of forming the socket out of physical material using the digitally controlled layered manufacturing technique comprises forming the socket wall and the passageway of the socket using the digitally controlled layered manufacturing technique, the method further comprising routing an electrically conductive wire within the passageway of the socket.

10. A method of forming a socket of a prosthetic limb and attaching the socket to a residual limb of a living animal comprising:

positioning a liner on at least a portion of the

residual limb;

marking the liner in manner indicating a preferred contour and location of a non-planer terminal edge of the socket, the marking occurring when the liner is positioned on the residual limb;

electronically scanning at least a portion of the liner when the liner positioned on the residual limb to generate a digital representation of a three-dimensional surface contour that is dependent on a physical three-dimensional surface contour of the liner when the liner is positioned on the residual limb, the scanning occurring in a manner such that the contour and location of the non-planer terminal edge of the socket that has been marked on the liner is identifiable in the digital representation of the three-dimensional surface contour;

generating a digital representation of the socket, the digital representation of the socket having a cavity defined by an interior surface, the interior surface being defined at least partially by the digital representation of the three-dimensional contour, the digital representation of the socket also having an exterior surface and a non-planar perimeter surface, the perimeter surface terminating the cavity and bridging the exterior and interior surfaces, the perimeter surface being dependent upon the contour and location of the

non-planer terminal edge of the socket that is identifiable in the digital representation of the three-dimensional surface contour;

using a digitally controlled layered manufacturing technique driven by the digital representation of the socket to form the interior, exterior, and perimeter surfaces of the socket out of physical material; and

attaching the socket of the prosthetic limb to the residual limb by positioning the residual limb with the liner positioned thereon at least partially into the cavity of the socket.

11. A method in accordance with claim 10 further comprising positioning at least one artifact adjacent the residual limb, and wherein the step of electronically scanning the portion of the liner occurs in a manner creating a plurality of digital representations of surface contours that are dependent on the physical three-dimensional surface contour of the liner and on the artifact and comprises aligning the plurality of digital representations of surface contours relative to each other by aligning portions of the plurality of digital representations of surface contours that are dependent on the artifact, the digital representation of the three-dimensional surface contour being dependent on the aligned plurality of digital representations of surface

contours.

12. A method in accordance with claim 10 wherein the step of using the digitally controlled layered manufacturing technique driven by the digital representation of the socket to form the interior, exterior, and perimeter surfaces of the socket out of physical material comprises using the digitally controlled layered manufacturing technique to form a fitting as an integral and homogeneous part of the socket and wherein the method further comprises:

providing a prosthetic appendage portion of the prosthetic limb that is releasably attachable directly to the fitting of the socket; and

attaching the prosthetic appendage portion directly to the fitting of the socket.

13. A method in accordance with claim 10 wherein the step of generating the digital representation of the socket of the prosthetic limb further comprises generating the digital representation of the socket in a manner such that the exterior surface is spaced from the interior surface and defines a socket wall that has a thickness that extends between the exterior and interior surfaces, the thickness of the socket wall varying in dimension at different portions of the socket wall.

14. A method in accordance with claim 10 wherein the step of generating the digital representation of the socket further comprises generating the digital representation of the socket in a manner such that the exterior surface is spaced from the interior surface and defines a socket wall that has a thickness that extends between the exterior and interior surfaces and in a manner such that a passageway having a non-linear trajectory is formed between the interior and exterior surfaces and extends transversely to the thickness of the socket wall, and wherein the step of forming the socket out of physical material using the digitally controlled layered manufacturing technique comprises using the digitally controlled layered manufacturing technique to form the passageway of the socket, the method further comprising routing an electrically conductive wire within the passageway of the socket.

15. A method of forming a socket of a prosthetic limb and attaching the socket to a residual limb of a living animal comprising:

positioning a liner on at least a portion of the residual limb, the liner having an exterior surface contour when the liner is positioned on the portion of the residual limb;

forming a socket having an exterior surface and a

cavity that is defined by an interior surface, the forming occurring in a manner such that the interior surface of the socket has a contour that is dependent upon the exterior surface contour of the liner and occurring without a process of intentionally rectifying the contour of the interior surface for the purpose of altering the bearing characteristics between the socket and the liner; and

attaching the socket of the prosthetic limb to the residual limb by positioning the residual limb with the liner positioned thereon at least partially into the cavity of the socket.

16. A method in accordance with claim 15 wherein the step of forming the socket comprises forming a fitting as an integral and homogeneous part of the socket and wherein the method further comprises:

providing a prosthetic appendage portion of the prosthetic limb that is releasably attachable directly to the fitting of the socket; and

attaching the prosthetic appendage portion directly to the fitting of the socket.

17. A method in accordance with claim 15 wherein the step of forming the socket comprises electronically scanning the exterior surface contour of the liner to generate a

digital representation of the socket that is dependent upon at least a portion of the exterior surface contour of the liner, and comprises using a digitally controlled layered manufacturing technique driven by the digital representation of the socket to form the socket out of physical material.

18. A method in accordance with claim 17 wherein the step of forming the socket comprises positioning at least one artifact adjacent the residual limb prior to electronically scanning the exterior surface contour of the liner, the electronic scanning of the portion of the liner occurring in a manner creating a plurality of digital representations of surface contours that are dependent on the exterior surface contour of the liner and on the artifact, the step further comprising aligning the plurality of digital representations of surface contours relative to each other by aligning portions of the plurality of digital representations of surface contours that are dependent on the artifact, the digital representation of the socket being dependent on the aligned plurality of digital representations of surface contours.

19. A method in accordance with claim 17 wherein the step of forming the socket further comprises using the digitally controlled layered manufacturing technique to form

the socket in a manner such that the exterior surface is spaced from the interior surface and defines a socket wall that has a thickness that extends between the exterior and interior surfaces, the thickness of the socket wall varying in dimension at different portions of the socket wall.

20. A method in accordance with claim 17 wherein the step of forming the socket further comprises using the digitally controlled layered manufacturing technique to form the socket in a manner such that the exterior surface is spaced from the interior surface and defines a socket wall that has a thickness that extends between the exterior and interior surfaces and in a manner such that a passageway having a non-linear trajectory is formed between the interior and exterior surfaces and extends transversely to the thickness of the socket wall, the method further comprising routing an electrically conductive wire within the passageway of the socket.

21. A prosthetic limb for attachment to a residual limb of a living animal comprising:

a socket formed by a digitally controlled layered manufacturing technique, the socket having a cavity defined by an interior surface, the interior surface being dependent on a physical three-dimensional surface contour of at least a

portion of the residual limb.

22. A prosthetic limb in accordance with claim 21 wherein the socket further comprises a fitting formed as an integral and homogeneous part of the socket via the digitally controlled layered manufacturing technique.

23. A prosthetic limb in accordance with claim 21 wherein the socket has an exterior surface that is spaced from the interior surface and that defines a socket wall that has a thickness that extends between the exterior and interior surfaces, the thickness of the socket wall varying in dimension at different portions of the socket wall.

24. A prosthetic limb in accordance with claim 21 wherein the socket has an exterior surface and a non-planar perimeter surface, the perimeter surface terminating the cavity and bridging the exterior and interior surfaces, the perimeter surface being non-planar and being formed by the digitally controlled layered manufacturing technique.

25. A prosthetic limb in accordance with claim 21 wherein the socket has an exterior surface that is spaced from the interior surface and that defines a socket wall that has a thickness that extends between the exterior and interior surfaces, the socket further comprising a passageway formed between the interior and exterior surfaces, the passageway

having a non-linear trajectory that extends transversely to the thickness of the socket wall, the passageway being formed by the digitally controlled layered manufacturing technique.

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